AMENDMENT NO. 2 JUNE 2015
TO
IS 9798 : 2013 LOW PRESSURE REGULATORS FOR USE WITH LIQUEFIED PETROLEUM GAS (LPG) MIXTURES

(Second Revision)

[*Second cover page*, *Foreword*, *para* 2 (c)] — Delete and renumber the subsequent Sl No.

(*Second cover page*, *Foreword*, *para* 3) — Substitute the following for the existing para:

'In the formulation of this standard considerable assistance has been derived from BS EN 16129 : 2013 'Pressure regulators, automatic change-over devises, having maximum regulated pressure of 4 bar , with maximum capacity of 150 kg/h , associated safety devises and adaptors for butane, propane, and their mixtures (superseding EN 12864 : 2001).'

(*Page* 1, *clause* **3.6**) — Insert the following new clauses at the end:

'**3.7 Type of Inlet Connections**

3.7.1 *Quick Coupling*

A connection system which allows the fitting of a regulator to a cylinder valve without a threaded connection and without use of tools.

3.7.2 *Threaded Inlet*

A connection system which allows the fitting of a regulator to a cylinder valve by means of a threaded connection and/or use of tools for fitment / removal.'

(*Page* 4, *clause* **5.5.2**) — Substitute the following for the existing para:

'**5.5.2** The inlet connection shall also be capable to withstand a minimum pneumatic pressure equivalent to the maximum vapour pressure specified in **3.1** at ambient temperature.'

(*Page* 4, *clause* **5.11**) — Substitute the following for the existing clause:

'**5.11 Strength of the Connection / Regulator Assembly**

5.11.1 The fixing of the inlet connection on to the regulator body , whether it is of the threaded or non - threaded type or in one piece, shall withstand the following tests, under the conditions defined in **8.11** (*see* Table 1):

a) A torque of at least 30 Nm in both directions; and
b) A tensile strength test of 2 000 N

5.11.2 The fixing of the outlet connection on to the regulator body, whether it is of the threaded, or non-threaded type or in one piece, shall resist the following tests, under the conditions defined in **8.11** (*see* Table 2):

a) *For non - threaded hose connection* :
   1) A torque of at least 30 Nm in one direction (verification not required for freely rotating connection) ,
   2) Bending moment of 10 Nm , and
   3) A tensile strength test of 2 000 N.

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b) *For threaded unions*:

   1) A torque of at least 30Nm in both directions (verification not required for freely rotating connections) ,
   2) A bending moment of 10 Nm , and
   3) A tensile strength test of 2 000 N.

5.11.3 For freely rotating connections, the torque necessary for the rotation of the connection shall not be greater than 0.5 Nm at the end of all the tests carried out.

5.11.4 No distortion or breakage shall be evident and the regulators shall comply with the soundness test described in **6** after application of the forces.

5.12 Strength of Regulator Assembly when Fitted onto a Cylinder Valve

5.12.1 The regulators when installed as indicated in the installation instruction shall resist the following tests under the conditions defined in **8.11** (*see* Table 3):

a) A torque in both directions,
   1) of at least 20 Nm for non-threaded hose outlet connections (15 Nm for quick coupling connections); and
   2) of at least 30 Nm for threaded outlet connections. In addition, regulators with screwed unions intended to be vertically mounted onto the cylinder valve, shall resist a torque of at least 20 Nm in the regulator plane (15 Nm for quick coupling connections).

b) A bending moment created by a force of 400 N directed upwards and whose application point is at the base of the outlet connection, and

c) A tensile strength test of 500 N, for quick coupling connections only.

5.12.2 The mechanical strength required shall be ensured for all the positions of fixing of the regulator (as indicated in the installation instructions) onto the cylinder.

5.12.3 There shall be no distortion or breakage that could affect the safety of the regulator. The regulator shall comply with the soundness test described in **6** after application of the forces.’

(*Page* 6, *clause* **6.1**, *line* 5) — Substitute ‘NTP that is 760 mm of Hg and 20 ^{o}C’ *for* ‘NTP that is 760 mm of Hg and 0 ^{o}C’.

(*Page* 7, *clause* **8.9.1**, *sentence* 2) — Substitute the following for the existing sentence:

‘Static (lock up) pressure shall not exceed 4.41 kN/m^2 (45 gf/cm^2 or 450 mm of WC).’

(*Page* 8, *clause* **8.11**) **—** Substitute the following for existing:

‘8.11 Mechanical Strength of Connections

8.11.1 *General*

Tests for mechanical strength shall be carried out using a dynamometric device allowing the measurement of forces to within ± 5 percent accuracy. For the torque test, a system which neutralises bending moments shall be used (if a torque wrench is used it is desirable that this is double handed). The duration of application of the torques, moments and forces shall be 60s each.

8.11.2 *Regulator Intended to be Directly Connected to a Cylinder Valve*

The points where the device is held and the test values are those shown in Tables 1, 2 and 3.

8.11.3 *For the tests given in Table* 3

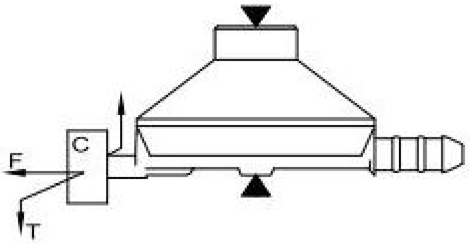
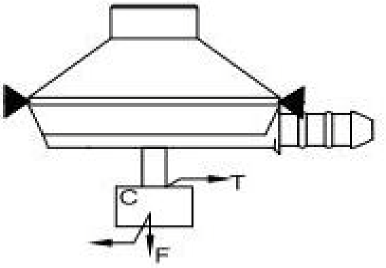
a) Devices with threaded connections, shall be mounted on the valve as indicated in the installation instructions; and

b) Devices with free rotating quick coupling connection, the torque test of 15 Nm is not required.

(*Page* 8, *Table* 1) — Substitute the following for the existing table:

Table 1 Mechanical Strength Test for Inlet Connections

(*Clauses* 5.11.1 *and* 8.11.2)

Sl No. (1)	**Test Diagram** (2)	**Type of Load** (3)	**Value** (4)
i)		T F	30 Nm 2 000 N
ii)		T F	30 Nm 2 000 N
key ▼▲▶◀ Regulator holding points T = torque, F = pulling force, C = inlet connection (see 3.7)			

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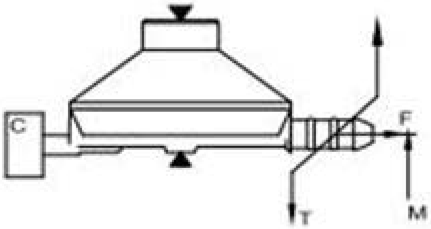
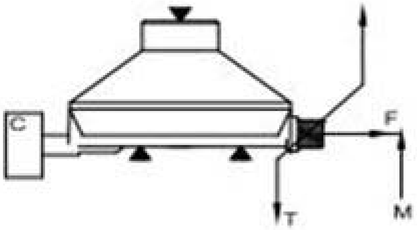
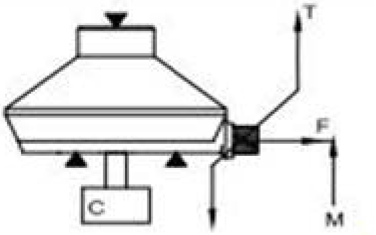
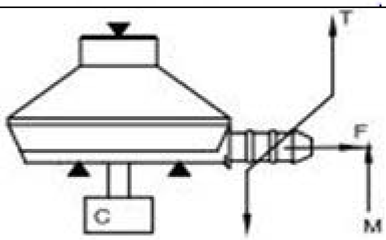
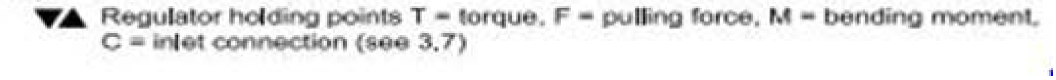
(*Page* 8, *Table* 2) — Substitute the following for the existing table:

Table 2 Mechanical strength test for outlet connections

(*Clauses* 5.11.2 *and* 8.11.2)

Sl No. (1)	Test Diagram (2)	Type of Load (3)	Value (4)
i)		T F M	30 Nm 2 000 N 10 Nm
ii)			
iii)		T F M	30 Nm 2 000 N 10 Nm
iv)			

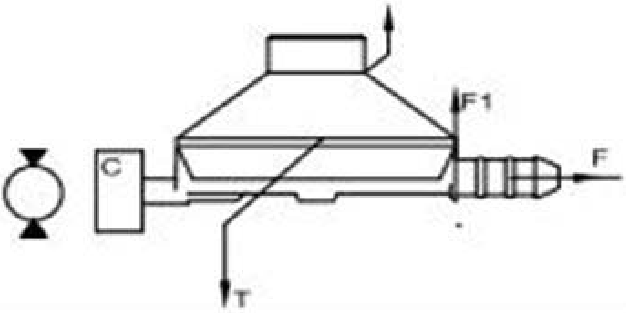
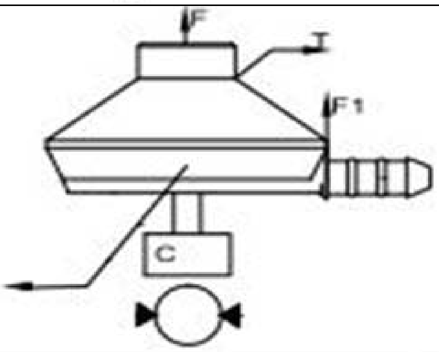
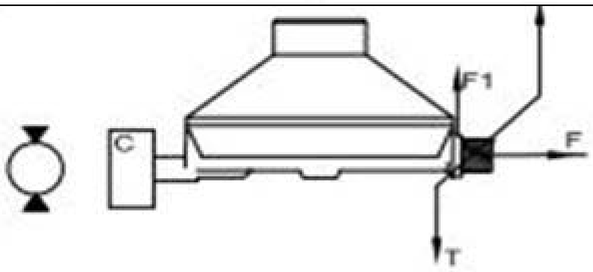
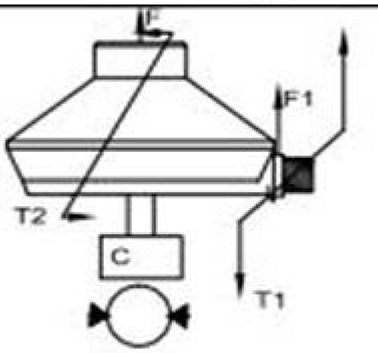


key

▼▲ Regulator holding points T = torque, F = pulling force, M = bending moment, C = inlet connection (see 3.7)

(*Page* 8, *Table* 3) — Substitute the following for the existing table:

Table 3 Mechanical Strength Test for the Device Assembly mounted on the Cylinder Valve
(*Clauses* 5.12.1, 8.11.2 *and* 8.11.3)

Sl No. (1)	**Test Diagram** (2)	**Type of Load** (3)	**Value for Threaded Inlet Connection** (4)	**Value for Quick Coupling Connection** (5)
i)		T F F_1	20 Nm – 400 N	15 Nm 500 N 400 N
ii)		T F F_1	20 Nm – 400 N	15 Nm 500 N 400 N
iii)		T F F_1	30 Nm – 400 N	30 Nm 500 N 400 N
iv)		T_1 T_2 F F1	30 Nm 20 Nm – 400 N	30 Nm 15 Nm 500 N 400 N

key ▼▲▶◀ Regulator fixing points
○ Valve
F = pulling force
F1 = bending force
C = Inlet connection (see 3.7)
T T1 T2 = Torque (T and T2 are not applied if the regulator is freely turning on its cylinder valve)

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